

# **I. Overview**

## **A. Purpose**

The purpose of this toolkit is to provide FAA regional offices with resource materials to help them in providing assistance to State and local officials and interested organizations for compatible land use planning around the nation's airports. Designed to more effectively target and address local concerns, the toolkit also includes materials for regional FAA personnel to use in furnishing airport noise compatibility information at local meetings and at other opportunities for information dissemination to the public. Keep in mind that this Toolkit is considered a "living" document and will be periodically updated adding new material as well as removing outdated information.

The FAA Airport Noise Compatibility Planning Toolkit was developed by the FAA's Office of Environment and Energy (AEE-100) in conjunction with the Office of Airport Planning and Programming (APP-600), Air Traffic Airspace Management Program (ATA-300), Office of the Chief Counsel (AGC-620), Southern Region Airports Division (ASO-600), and in cooperation with the National Association of State Aviation Officials (NASAO).

These materials were selected and organized based upon responses from local communities, aviation interests, and environmental groups, following FAA's solicitation for land use options in the Federal Register in May 1998.

## **B. Background**

***"Reduce the number of people in the U.S. exposed to significant aircraft noise by at least 64% from the 1995 baseline of 1.7 million. The FY 2000 target is at or below 600,000."***

***Department Of Transportation Performance Plan, FY 2000***

The FAA has been actively involved over the years in efforts to reduce the impact of aircraft noise on the public, and in some areas we have been successful. Basically, there are three ways to reduce the impact of aircraft noise:

- (1) Reducing aircraft noise generated at the source through technology;
- (2) Instituting new aircraft, air traffic, and airport operational procedures; and
- (3) Prevention through effective land use control measures by the local communities, and remedial measures such as soundproofing and acquisitions.

In reality, the most successful noise reduction efforts usually result from a combination of all three of these methods.

***“Each of the participants in the noise abatement effort—the airport users, aircraft manufacturers, airport proprietors, federal, State and local governments, and residents in communities surrounding airports—must take specific steps that are essential in reducing the number of people adversely affected by noise and the severity of the effects on all people.”***

***Aviation Noise Abatement Policy***

Of the three methods for reducing aircraft noise impact, the area that is outside the control of the Federal government is land use control. Under the *United States Constitution*, this area is strictly the purview of the State and local governments. When asked our position on land use measures, the FAA has in the past provided helpful guidelines and documents regarding the issue of compatible land use, but only on a relatively limited scale and in local applications.

Recognizing the need for a comprehensive set of tools to help FAA regional offices to communicate and work effectively with the public, and assist the State and local governments and interested organizations in land use compatibility planning around airports, the FAA has developed this Airport Noise Compatibility Planning Toolkit. This toolkit serves in a number of ways, such as: providing information on Federal legislation, FAA policy, regulations, programs, and funding support; training FAA personnel and the groups they interact with; and providing examples of State legislation and programs currently in place for addressing the airport land use compatibility issues. Where applicable, these tools can be modified to address land use issues specific to a particular airport or community.

***“The FAA will encourage airport proprietors, who are legally responsible for the effect of aircraft noise on the surrounding community, to assess their particular noise problem and, where local authorities determine that there is a significant problem, to develop an action plan to reduce the impact of noise. That action plan should include a program to ensure maximum land use compatibility with airport operations both by the acquisition of easements or other rights in the use of land or airspace and by encouraging local governments to adopt and enforce zoning or other land use controls.”***

***Aviation Noise Abatement Policy***

From our experience in over 230 airport noise compatibility studies and a number of sensitive environmental reviews, we have learned that effective land use management in those crucial noise-exposed areas near airports is essential to both the continued viability of the airports and preserving the quality of life of the communities' residents. Too often in the past, communities and airports have worked at cross-purposes due, as much as anything else, to a lack of communication and a lack of information on noise compatibility planning.

The FAA is convinced that in any given community, there is a range of viable and productive, yet compatible, uses for noise-impacted lands. Effective planning can place noise sensitive uses, such as homes and schools, into areas unaffected by aviation noise. Although in many locations, land surrounding the airport is already fully developed, in other locations these lands are either undeveloped or have potential for redevelopment. The tools contained in this toolkit can help facilitate the planning to bring about productive use or reuse of these lands. Where noise-sensitive uses are already in place, the communities and the airports should work together to mitigate the impacts by using tools contained in this kit. Additionally, other resources provided through various FAA programs, or available through State and local organizations and the normal urban planning and urban economic development processes, are available.

A particular concern is that noise reductions gained from the costly phaseout of noisy Stage 2 airplanes may be wasted if new noise sensitive uses are permitted to follow the shrinking noise contours too quickly and too closely. Effective land use planning takes into account both the existing noise, and the future growth of the airport by designating and reserving those lands for uses that are compatible with the airport—consistent with the community’s comprehensive plan—now and in the future. The ultimate goal of this effort is to enable communities and airports to work together to manage and develop these lands in ways that are environmentally sound, economically productive, and accommodative of the airport’s future development.

Our commitment to influence local land use decisions that affect airports is clearly spelled out in the conclusion of the 1976 Aviation Noise Abatement Policy (ANAP), which states in part that: “**...we will not hesitate to advise local governments and airport proprietors that they must exercise control over land use development and acquire additional land around airports to ensure that the national objective of confining severe aircraft noise to within the airport boundary is achieved.**” Although the 1976 objective of confining “severe aircraft noise” (noise exposure in excess of Day-Night Sound Level (DNL) 75 dB) to within the airport boundary has been largely achieved, our efforts now should be focused upon confining “significant aircraft noise” (noise exposure in excess of DNL 65 dB) to within the airport boundary or to areas that are permanently compatible with that level.

## **C. Roles, Responsibilities, and Application**

The FAA Airport Noise Compatibility Planning Toolkit includes tools fashioned to provide assistance in designing and implementing an effective airport noise compatibility program. This section will provide a general strategy for applying the tools; however, a more specific and detailed work plan is contained in the 14 CFR Part 150, Airport Noise Compatibility Planning Program and in its supporting Advisory Circular, Noise Control and Compatibility Planning for Airports (AC 150/5020-1). More detailed information on specific tools is included under Planning Tools.

Some of the tools are best applied even before the planning process for a specific airport situation has begun. Airport noise disclosure requirements, for example, can help defuse noise problems before they begin—or at least keep them from growing—as can zoning which includes airport noise overlay districts. The airport operator's constant liaison with each of the area's zoning and land use control authorities is critical. The airport and its needs, including ground access as well as noise impact and future runway space, should be an integral part of the area's comprehensive planning. Typically, comprehensive urban planning is done on a 20-year scale and is updated periodically depending upon individual State requirements. Although airport proprietors cannot always foresee all of the future growth needs of airports, long-range projections of potential airport configuration and noise affected areas are important elements of including an airport's compatible land use needs in 20-year comprehensive urban plans. In some cases, it may be desirable to err on the large side, i.e., a very robust vision of the airport's future, to outline a maximum compatible land use envelop for long-range protection.

A major challenge in establishing and maintaining compatible land uses around airports is to develop a coordinated plan for future airport growth and community growth and to support the plan with adequate implementation mechanisms. Unplanned growth of either the airport or surrounding community can be costly, both financially and in terms of community problems. It serves the overall community's best interest and the airport's interest to assure that an adequate area of land in the airport vicinity is placed in long-term compatible use. Compatible land use planning must realistically take cognizance also of land use economics, for example, to insure that there is enough demand in a community for the types of proposed compatible uses—whether commercial/industrial property, agricultural uses, or vacant natural areas.

Finally, every governmental entity whose jurisdiction includes land uses in the airport vicinity needs to be part of the cooperative effort to plan and implement actions to improve and insure long-term compatibility. The roles of the various parties in compatible land use achievement are described in more detail on the following pages.

### ***What Are the Essential Roles in Achieving Compatible Land Use?***

An important tool in the toolkit is a clear definition of the attitude and role played by each of the stakeholders in the process, whether active or passive. While the airport noise compatibility planning process is intended to bring together all those who have a stake in either the noise or the solutions to the noise—airport operators, aircraft operators, airport users, airport neighbors, and land use control jurisdictions—some considerable effort and cooperation must be expended to make this happen.

#### ***1. Airport Operator:***

The airport operator is the key player in noise compatibility planning. The airport operator has to inspire and coordinate the compatibility efforts of perhaps several local governments whose leaders have many other demands and priorities other than the

needs of the airport. Airport noise compatibility planning and its implementation are the joint responsibility of the airport operator and those local governments exercising control over the lands impacted by the airport's current and future operations. However, keeping the issue before those local planning and governing bodies and vigilantly watching over the protection of those critical lands are the direct responsibilities of the airport operator. The airport operator's role is to realistically explain and forecast the airport's operational needs and noise exposure in terms of predicted noise contours, anticipated airport growth—new runways, new nighttime classes of operations, etc.—and to work with the local governments, residents, and power structures. In preparing a master plan for the future development of airport facilities, the airport operator should optimally consider the compatible land use goals and needs as well as the communities' overall goals. Close coordination with the local planning agencies is essential.

## ***2. Affected Local Governments:***

Local governments, and their elected and appointed officials, have the sole direct authority and responsibility for land use and zoning control. They are responsible to their citizens for maintaining high environmental standards and for protecting long-term property values—the prime source of their revenues. Therefore, the local government's role is to work in a sincere effort with the airport operator in developing the long-term airport compatibility plan, fitting it into the area's comprehensive planning process, and to then fully implement the plan by enacting such zoning or development controls as may be necessary to make it actually happen. Plans on the shelf are of little value. Land use and zoning regulations must proceed with due consideration for both the requirements and potential effects of the local airport facilities and operations and the good of their community. This includes particular attention paid to noise impact mitigation, tall structure location, hazardous uses or landfill development, and wildlife interaction with aviation activity in addition to other infrastructure interface considerations. Thus, the local governments must strike the critical balance between competing demands in order to create an achievable and long-term sustainable compatible land use scheme.

## ***3. Regional Planning Agency:***

Inasmuch as an airport's noise contours may include multiple local jurisdictions, regional planning authorities can have an important role in coordinating the area's compatible land use planning. They can offer valuable assistance in balancing land use requirements and land use economics. Regional planning agencies can provide an objective forum for the resolution of conflicts and issues that may arise. They can also help coordinate the ground transportation network which provides access to the airport.

## ***4. State Government:***

The State Government's primary role is to provide the legal tools to local governments for compatible land use planning, and for implementation of those land use controls and

building codes, as well as to oversee their diligent use. Some examples of this are: providing for comprehensive planning authority in or over areas near airports affecting multiple jurisdictions; providing adequate zoning, subdivision control, and building code authority to the affected local governments; and providing for airport noise disclosure in real estate transactions, and for other powers that must be derived from the State. It is noted that several states are also airport owners or operators. As airport operators, they have those additional critical roles of coordinating airport land use compatibility efforts discussed above for airport operators. State civil aviation authorities can also provide matching funds for preparation of master plans and airport land use compatibility planning.

#### **5. *Federal Aviation Administration (FAA):***

The Federal government, under the U. S. Constitution, has no zoning authority—this is a police power reserved to the States. The FAA may request, inform, or persuade States or local governments to zone, but these entities have the sole authority to actually enact zoning. The FAA 's role is to provide overall guidance to local governments and airport operators to facilitate compatibility planning, and to finance from aviation tax revenues part of the cost of compatible land use planning and implementation. These include funding for developing master plans, noise and compatible land use studies (14 CFR Part 150), environmental studies, and for implementation of the sound insulation projects and other approved noise mitigation measures. Additionally, FAA is responsible for the systematic development and safe operation of airports and aviation facilities. The FAA is responsible for the utilization of airspace and control of aircraft operations through its air traffic control responsibilities; for the implementation of flight standards (airworthiness and noise emissions of aircraft, for example); for navigation aids and other facilities necessary to provide a safe and efficient aviation system; and for ensuring that the airports receiving State funding are in compliance with Federal grant assurances. The Airports Divisions of FAA regional offices, and their Airport District Offices (ADO's), have noise compatible planning expertise available and stand ready to advise and provide support to airport operators and local governments in their land use compatibility efforts.

#### **6. *Aircraft Operators:***

Aircraft operators—including airlines, cargo carriers, general aviation, and the various governmental segments of aviation—all have essential roles in the noise compatibility equation. The aircraft operators should participate cooperatively in the planning, accurately forecast their future operations, and be willing to maximize aircraft noise abatement consistent with aviation safety and operational needs. Safety is never compromised. Pilots of all aircraft, including general aviation aircraft, are responsible for operating their aircraft in accordance with the noise abatement procedures established at and around an airport.

## **7. Passengers And Shippers:**

Passengers and shippers, through air ticket and air bill taxes, generate funds for aviation development and land use compatibility efforts. Portions of these taxes are directly allocated for noise control and planning activities while others are allocated to the safe and efficient use of airspace and development of aviation facilities. In addition, passenger facility charges (PFC) at some airports are also used to fund similar activities at the airports where they are received. Note that a large portion of the funds for noise mitigation projects are derived from State and local revenues.

## **8. Airport Neighbors:**

***“Residents and prospective residents in areas surrounding airports should seek to understand the noise problem and what steps can be taken to minimize its effects on people. Individual and community responses to aircraft noise differ substantially and, for some individuals, a reduced noise may not eliminate the annoyance or irritation. Prospective residents of areas impacted by airport noise thus should be aware of the effects of noise on their quality of life and act accordingly.”***

### ***Aviation Noise Abatement Policy***

Thus stated, residents in communities surrounding airports play a vital role in the noise compatibility process. Representatives of citizen groups are encouraged to take an active role in the planning process, but should do so from an informed position. They should become knowledgeable in the basics of aviation noise so that they can take constructive roles in the planning process—understanding noise forecasts and the noise abatement or mitigation proposals that may be put forth, evaluating them relative to their own neighborhood circumstance and sensitivities. Prospective residents should access available information on the airport’s current and future noise contours and runway locations and then relate these to their own sensitivity levels, prior to making their commitments. Making appropriate inquiries and informed decisions before committing to buying or leasing property in the airport vicinity is the responsibility of the individual.

## **9. The Land Development Industry:**

The land development industry’s role in the overall scheme of things is, of course, to maximize the return from its investment in land. However, that role need not be counterproductive to the compatible use of lands in the airport vicinity, and this may indeed be a productive and profitable asset. By recognizing the long-term potentials and benefits of the appropriate placement of development relative to airport’s noise impact, the land development industry can utilize its skills and developmental entrepreneurship to: (1) visualize and promote compatible types of land uses for the noise impacted lands, including commercial and industrial property; and (2) to plan and

promote residential and other noise sensitive development only in those areas well removed from noise impacted lands.

#### **10. *Realtors:***

Realtors' roles are to forthrightly and realistically represent those properties near airports or in airport noise impact areas, disclosing rather than obscuring the impacts that potential buyers are most likely to encounter.

#### **11. *Real Estate Appraisers:***

The real estate appraiser's role is to forthrightly and realistically evaluate those properties near airports or in airport noise impact areas, so that lenders and potential buyers may be fully cognizant of the monetary and environmental impacts of aviation on those properties.

#### **12. *The Mortgage Industry:***

The mortgage industry's role is to forthrightly and realistically consider the longer-term implications of the monetary and environmental impacts of aviation on properties near airports or in airport noise impact areas in making their determinations.

### **D. Organization of the Toolkit**

The "tools" contained in this toolkit are organized into six sections: FAA Policies, Regulations, Programs, and Funding Sources; FAA Guidance Materials; Planning Tools; State and Local Noise Compatibility Programs; Communication Tools; and Additional Tools. Each section contains an introductory page with a brief description of the contents and expectations.

For example:

If you need information on FAA's soundproofing policies, go to the FAA Policies Regulations, Programs and Funding Sources section.

If you need background on FAA noise modeling procedures, go to the Planning Tools section.

If you need information on land use ordinances in other states, go to the State and Local Noise Compatibility Programs section.

If you need to make a presentation at a zoning hearing, go the Communication Tools section for a prepared Powerpoint presentation with both a 3.5" diskette and transparencies for your convenience.

The last section, Additional Tools, includes an Action Log Form which should be used to document how the individual tools were used. This form will be used as part of our follow-up program to determine what is working and what isn't. Please complete this form after each use of the toolkit. You can also include in this section information that is pertinent to your region or specific airport.

## **E. Summary**

This toolkit presents a comprehensive inventory of information for airport noise compatibility planning under one cover. The usefulness of each tool is dependent upon how it is applied. It should be used as a resource guide by the FAA regional staff to assist and encourage State and local airport and land use planning officials in:

- Addressing the airport development and land use planning and compatibility issues. This approach will aim at achieving FAA's goal of prevention of new non-compatible uses within the airport's existing and future noise contours through cooperative planning, zoning, subdivision regulations, disclosure and open communication;
- Working cooperatively with all the parties involved to achieve a balanced airport noise compatibility plan; and
- Mitigating, to the degree practicable, existing non-compatible uses through sound insulation, changes in land uses, easement, and voluntary acquisitions.

In addition to foresight, a powerful noise compatibility tool is the dynamic of change. Static non-compatibility situations require the expenditure of great resources to correct. But whenever a significant change is taking place—such as urban development or redevelopment, or enlargement of the airport—a synergy is created that can be directed so as to achieve greater compatibility at a much lower cost. You are strongly encouraged to develop a strategy to utilize that energy of change towards achieving airport noise and land use compatibility.

## **F. Contact Information**

We welcome any questions and comments you may have on this toolkit. Please contact the Office of Environment and Energy, Noise Division, by e-mail at 9-AWA-AEE-LUPI@FAA.GOV.